

CLAIMS

What is claimed is:

1. An optical module comprising:
a wiring substrate including a flexible substrate and a wiring pattern formed thereon;
an optical chip including an electrode that is electrically connected to the wiring pattern, and an optical section; and
a base member that holds a lens that focuses light on the optical section, wherein a surface of the optical chip having the electrode is opposite to the wiring substrate,
the wiring substrate includes a light-transmissive section at a location that overlaps the optical section, and
the base member is affixed to the optical chip through the wiring substrate.
2. An optical module according to claim 1, wherein the base member is affixed to the optical chip at a position of the electrode through the wiring substrate.
3. An optical module according to claim 2, wherein an electrical connection section between the electrode and the wiring pattern is sealed with sealing material.

4. An optical module according to claim 1, wherein the light-transmissive section comprises an opening section of the flexible substrate.

5. An optical module according to claim 4, wherein the optical chip includes a plurality of the electrodes, the plurality of the electrodes are electrically connected to the wiring pattern in a region around the opening section on the wiring substrate, and the base member is provided to surround the opening section.

6. An optical module according to claim 1, wherein the base member is adhered to the wiring substrate.

7. An electronic device including the optical module according to claim 1.

8. A method for manufacturing an optical module, comprising:
step (a) including:

placing an optical chip on a wiring substrate, the optical chip having an electrode and an optical section, a surface of the optical chip including the electrode facing the wiring substrate, the wiring substrate including a flexible substrate and a wiring pattern formed on the flexible substrate;

overlapping the optical section with a light-transmissive section of the wiring substrate; and

electrically connecting the electrode and the wiring pattern; and

step (b) including:

affixing a base member to the optical chip through the wiring substrate, the base member holding a lens for focusing light on the optical section.

9. A method for manufacturing an optical module according to claim 8, wherein, in step (b), the base member is aligned by recognizing a mark.

10. A method for manufacturing an optical module according to claim 9, wherein the light-transmissive section comprises an opening section of the flexible substrate, and the mark is formed in a region of the optical chip which is exposed through the opening section.

11. A method for manufacturing an optical module according to claim 9, wherein the mark is formed on the wiring substrate.

12. A method for manufacturing an optical module according to claim 9, wherein the mark is a pattern formed in the same step in which the wiring pattern is formed.